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Discussions

Interactive comment on "Changes in high intensity precipitation on the Northern Apennines (Italy) as revealed by multidisciplinary data over the last 9000 years" *by* Stefano Segadelli et al.

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General comments

We are indebted to Dr. Mercuri and Dr. Combourieu for their comments, which help us a lot especially for what concerns the role of pollen data in the paper. We recognize that this issue was not clearly reported in the manuscript. We are aware that we cannot make any high-resolution paleoclimate inferences with the adopted sampling procedure, and we will correct the text in this sense. In the context of our research, the use of pollen is to be framed only in a multidisciplinary-stratigraphic perspective aimed to: 1. Better define the environmental conditions (facies interpretation including

evaluation of humidity/water table persistence); 2. Evaluate the role played or not by the tree cover (given by the afforestation rate) on the flow activation processes. Thus, we believe that, with the due improvements and clarifications required, our pollen data furnish useful information if referred to the aims of the paper and, consequently, to key stratigraphic intervals identified within the sedimentary succession under examination.

Specific reply to Dr. Combourieu

Figures 7 and 10 will be modified in order to make them more readable and to highlight the temporal scale, largely following the indications given. The purpose of the work, perhaps not clearly stated in the initial part, is not to make a paleoclimate reconstruction of the Holocene period via pollen data. The distance among pollen samples within the two key intervals (not to the whole sequence that, however, cannot be sampled in continuum due to the occurrence of several coarse-grained layers), is about 30 cm. We consider this sampling procedure consistent with the aims of the work (as explained in the "general comments" and specific reply to Dr. Mercuri). We have taken into account the observations related to samples P10, P5 and P6. As suggested, we will show separately Pine and Spruce and we will explain the composition of the groups. Instead of grazing meadows we will use the term meadows that remain such in the absence of livestock and become pastures with the presence of livestock.

Interactive comment on Clim. Past Discuss., https://doi.org/10.5194/cp-2019-135, 2019.